



Seasonality in six enterically transmitted diseases and ambient temperature

Author(s): Naumova EN, Jagai JS, Matyas B, DeMaria A, MacNeill IB, Griffiths JK
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Abstract:

We propose an analytical and conceptual framework for a systematic and comprehensive assessment of disease seasonality to detect changes and to quantify and compare temporal patterns. To demonstrate the proposed technique, we examined seasonal patterns of six enterically transmitted reportable diseases (EDs) in Massachusetts collected over a 10-year period (1992–2001). We quantified the timing and intensity of seasonal peaks of ED incidence and examined the synchronization in timing of these peaks with respect to ambient temperature. All EDs, except hepatitis A, exhibited well-defined seasonal patterns which clustered into two groups. The peak in daily incidence of *Campylobacter* and *Salmonella* closely followed the peak in ambient temperature with the lag of 2–14 days. *Cryptosporidium*, *Shigella*, and *Giardia* exhibited significant delays relative to the peak in temperature (~ 40 days, P

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Climate Change and Human Health Literature Portal

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: Campylobacteriosis, Cryptosporidiosis, Giardiasis, Salmonellosis, Shigellosis

Medical Community Engagement: 

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Resource Type: 

format or standard characteristic of resource

Research Article

Timescale: 

time period studied

Time Scale Unspecified